

*Making knowledge and making
decisions for adaptation: local
knowledge and agricultural science
in smallholder farming in North-
Central Namibia*

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Aims of presentation

Look at local agro-ecological knowledge in North-Central Namibia as:

1. Adaptive capacity
2. Another basis for making decisions in the face of considerable uncertainty
3. A frame of reference which needs to be understood if adaptation practice is to correspond to adaptation policy

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Fieldsites in Omusati Region, Namibia

- Oshikulufitu
- Omufitugwanauyala
- Smallholder agro-pastoralism – mainly cereal production and cattle
- Both within the Cuvelai basin area covered by *oshanas*

Livelihood activities in North-Central Namibia



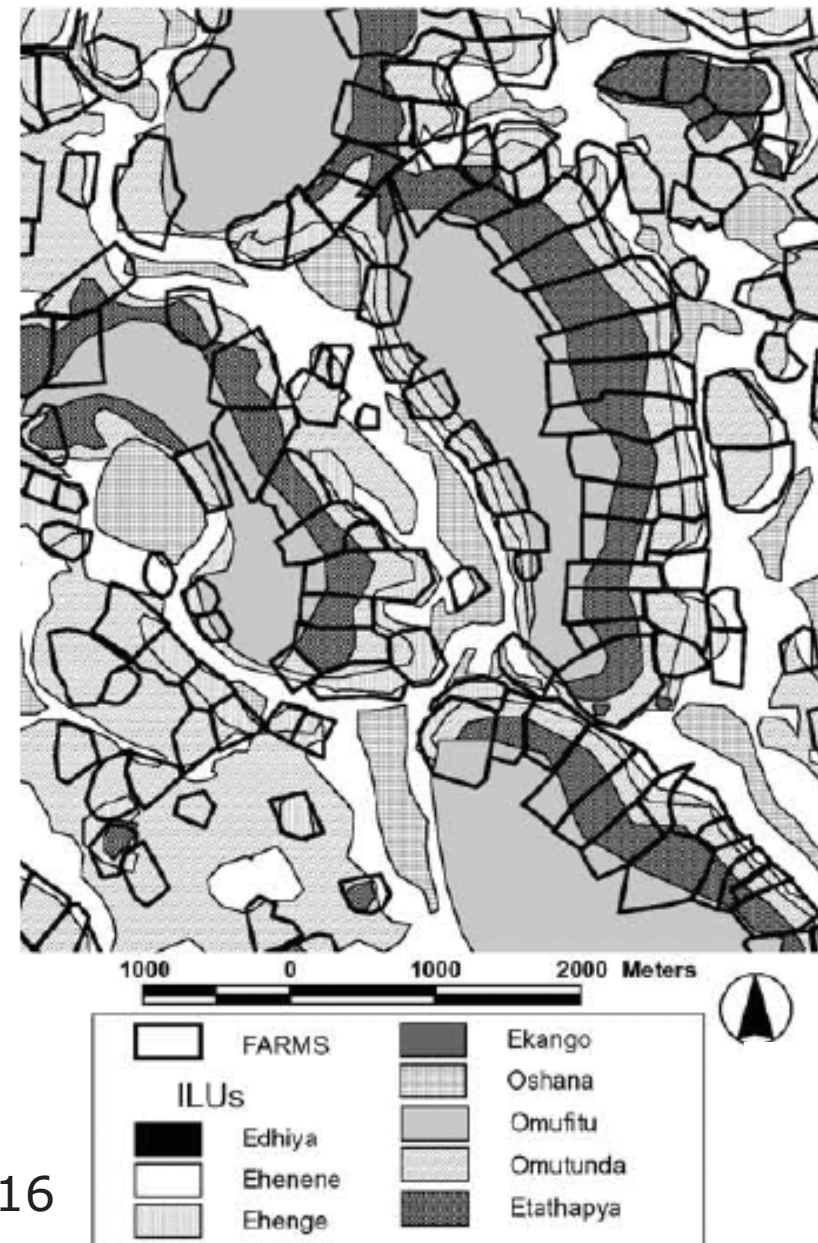
Agro-ecological knowledge in North-Central Namibia

'indigenous land unit management classification system' (Hillyer *et al* 2006) which farmers use to determine how, what and where to farm in conditions of high rainfall variability – 'ILUs' therefore serve as a central factor in determining settlement patterns

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- Land classified according to topography, soil properties, depth of hardpan, soil-water dynamics and availability of annual and perennial grasses



Source: Verlinden *et al* 06:316

Robustness & utility of local agro-ecological knowledge

- Conventional vegetation analysis of the ILUs found consistency in land units classified according to vegetation criteria (Verlinden & Dayot 2005)
- **Local knowledge as adaptive capacity** to current climate variability – possibly also as proxy for adaptive capacity to future climate change?

Land units & crops grown in them in Oshikulufitu village

Indigenous Land Unit	Crop
Omutunda	Mahangu (pearl millet)
Omuhenye	mahangu, beans, watermelon, squash
Ehenge	Beans, nuts mahangu
Oshindabo	sorghum, watermelon and maize
Ehenene	sorghum, maize, watermelon, squash, beans
Omufitu	mahangu, beans, maize, nuts, pumpkin, watermelon

But! Local knowledge is no panacea



AP Photo



Knowledge transfer & acquisition

- New farming techniques brought by migrant labourers for much of 20th century, i.e. ploughing with donkeys
- Greater access to agricultural extension services since independence (1990) – infusion of 'new' knowledge

Agricultural extension & knowledge transfer

- Extension work has not always engaged with local agro-ecological knowledge
- However, broad uptake of early maturing varieties i.e. Okashana 1 & 2 – farmers value ag extension
- Yet new techniques do not necessarily replace old ones – ‘cultural logic’ of add (*gwedhela*), substitute (*pingena*), graft (*tsikila*) (Nantanga in prep)

Prospects for knowledge co-production dependent upon:

- Motivations of agricultural extensionists (who are often local)
- Desire for innovation amongst farmers
- Changes in agricultural policy

References

- Natanga, L (in prep), Is the great epistemic divide between local and scientific knowledge justifiable? A Namibian case study
- Verlinden, A. and Dayot, B. (2005) 'A comparison between indigenous environmental knowledge and a conventional vegetation analysis in north central Namibia'. *Journal of Arid Environments*, **62**, pp. 143-175.
- Verlinden, A., Hillyer, A. E. M. and Seely, M. (2006) 'Settlement, trees and termites in Central North Namibia: A case of indigenous resource management'. *Journal of Arid Environments*, **66**, pp. 307-335.